

## GLC-SX-MMD GBIC Transceiver Module 1000Base-SX SFP Dual LC



Part Number: NV-GLC-SX-MMD

### Product Features

- Hot-pluggable SFP footprint
- 850nm VCSEL laser transmitter
- RoHS compliant and Lead Free
- Up to 550m on 50/125µm MMF, 500m on 62.5/125µm MMF
- Digital Diagnostic Monitoring Function
- Metal enclosure for lower EMI
- Single +3.3V power supply
- Low power dissipation <600mW
- Commercial operating temperature range:0°C to +70°C

### Applications

- 1.25Gb/s 1000Base-SX Ethernet
- 1.063Gb/s Fibre Channel

### General

Small Form Factor Pluggable (SFP) transceivers are compatible with the Small Form Factor Pluggable Multi-Sourcing Agreement (MSA). They simultaneously comply with 1.25Gb/s 1000Base-SX Ethernet and 1.063Gb/s Fibre Channel. They are RoHS compliant and lead-free.

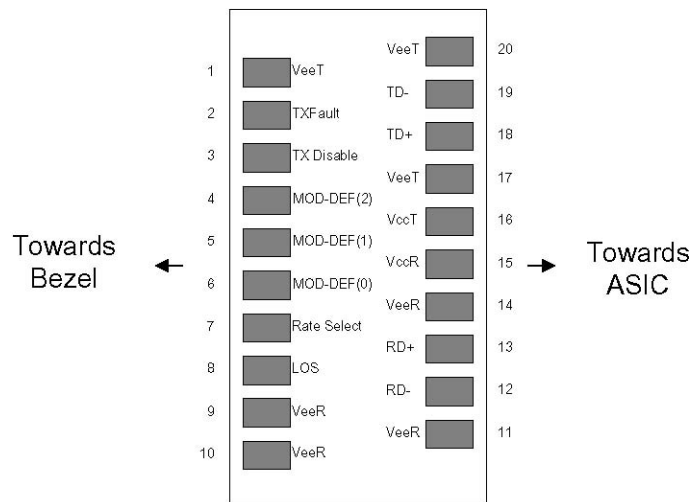
### I. Pin Descriptions

Pin	Symbol	Name/Description	Ref.
1	VeeT	Transmitter Ground (Common with Receiver Ground)	1
2	TX Fault	Transmitter Fault.	
3	TX Disable	Transmitter Disable. Laser output disabled on high or open.	2
4	MOD_DEF(2)	Module Definition 2. Data line for Serial ID.	3
5	MOD_DEF(1)	Module Definition 1. Clock line for Serial ID.	3

6	MOD_DEF(0)	Module Definition 0. Grounded within the module.	3
7	Rate Select	No connection required	
8	LOS	Loss of Signal indication. Logic 0 indicates normal operation.	4
9	VeeR	Receiver Ground (Common with Transmitter Ground)	1
10	VeeR	Receiver Ground (Common with Transmitter Ground)	1
11	VeeR	Receiver Ground (Common with Transmitter Ground)	1
12	RD-	Receiver Inverted DATA out. AC Coupled	
13	RD+	Receiver Non-inverted DATA out. AC Coupled	
14	VeeR	Receiver Ground (Common with Transmitter Ground)	1
15	VccR	Receiver Power Supply	
16	VccT	Transmitter Power Supply	
17	VeeT	Transmitter Ground (Common with Receiver Ground)	1
18	TD+	Transmitter Non-Inverted DATA in. AC Coupled.	
19	TD-	Transmitter Inverted DATA in. AC Coupled.	
20	VeeT	Transmitter Ground (Common with Receiver Ground)	1

**Notes:**

1. Circuit ground is internally isolated from chassis ground.
2. Laser output disabled on TX Disable >2.0V or open, enabled on TX Disable<0.8V.
3. Should be pulled up with 4.7k – 10kohms on host board to a voltage between 2.0V and 3.6V.
4. MOD\_DEF (0) pulls line low to indicate module is plugged in.
5. LOS is LVTTTL output. Should be pulled up with 4.7k – 10kohms on host board to a voltage between 2.0V and 3.6V. Logic 0 indicates normal operation; logic 1 indicates loss of signal.



**Pinout of Connector Block on Host Board**

## II. Optical Characteristics (TOP=25°C, Vcc=3.3 Volts)

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
<b>Transmitter</b>						
Output Opt. Power	PO	-9	-	-3	dB m	1
Optical Wavelength	$\lambda$	830	850	860	nm	
Spectral Width	$\sigma$	-	-	0.8 5	nm	
Side Mode Suppression Ratio	SMSR	30	-	-	dB	
Optical Rise/Fall Time	tr/tf	-	-	175	ps	2
Deterministic Jitter Contribution	TX $\Delta$ DJ	-	-	0.0 7	UI	3
Total Jitter Contribution	TX $\Delta$ TJ	-	-	0.0 07	UI	
Optical Extinction Ratio	ER	9	10	-	dB	
<b>Receiver</b>						
Average Rx Sensitivity	RSENS	-	-	-20	dB m	4
Maximum Received Power	RXMAX	-2	-	-	dB m	
Optical Center Wavelength	$\lambda_C$	770	850	860	nm	
LOS De-Assert	LOSD	-	-	-24	dB m	
LOS Assert	LOSA	-35	-	-	dB m	
LOS Hysteresis		0.5	-	-	dB	

### Notes:

1. Class 1 Laser Safety.
2. Unfiltered, 20–80%.
3. Measured with DJ-free data input signal. In actual application, output DJ will be the sum of input DJ and  $\Delta$ DJ.
4. Measured with PRBS 27-1 at 10-12 BER.

### III. General Specifications

Parameter	Symbol	Min	Typ	Max	Units	Ref.
Data Rate	BR	-	-	1250	Mb/s ec	1
Bit Error Rate	BER	-	-	$10^{-12}$		2
Max. Supported Link Length on 50/125µm MMF @ 1.25G	LMAX	-	-	550	m	3

#### Notes:

1. 1.25G and 1.063G compliant.
2. Tested with a PRBS 27-1 data pattern.
3. Dispersion limited per FC-PI-2 Rev. 10

### IV. Mechanical Specifications

Small Form Factor Pluggable (SFP) transceivers are compatible with the dimensions defined by the SFP Multi-Sourcing Agreement (MSA).

